APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/845,361	05/01/2001	Satoru Nakai	401172	2611

			EXAMINER
23548	7590	07/20/2004	PHAM, THOMAS K

LEYDIG VOIT & MAYER, LTD
700 THIRTEENTH ST. NW
SUITE 300
WASHINGTON, DC 20005-3960

ART UNIT	PAPER NUMBER
2121	

DATE MAILED: 07/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>22 June 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is

closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All   b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage

application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)   4)☐ Interview Summary (PTO-413)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)   Paper No(s)/Mail Date. _____ .
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)   5)☐ Notice of Informal Patent Application (PTO-152)
Paper No(s)/Mail Date _____ .   6)☐ Other: _____ .

Response to Amendment

1.   This action is in response to the request for reconsideration filed on 6/22//2004.

2.   Applicant's request for reconsideration of the finality of the rejection of the last Office

action is persuasive and, therefore, the finality of that action is withdrawn. However, upon

further consideration, a new ground(s) of rejection is made in view of Lehman et al. U.S. Patent

No. 4,796,179.

Quotations of U.S. Code Title 35

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on
> sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed
> in the United States before the invention by the applicant for patent or (2) a patent granted on an application for
> patent by another filed in the United States before the invention by the applicant for patent, except that an
> international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this
> subsection of an application filed in the United States only if the international application designated the United
> States and was published under Article 21(2) of such treaty in the English language.

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

Claim Rejections - 35 USC § 103

5.   Claims 1-2, 4-12, and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable

over U.S. Patent no. 5,623,592 ("Carlson") in view U.S. Patent No. 4,796,179 ("Lehman").

Regarding claim 1

Carlson teaches a system comprising: a controller (fig. 1, element 116); a monitor connected

with said controller (fig. 1, element 118); at least one object to be controlled, said object

connected with said controller (fig. 1, elements 104, 106, 108 and 110); development means for

developing a program for said object (col. 7 lines 26-45, "a user first ... the selected

instrument."); implementing means for implementing the program developed by said

development means (col. 12 lines 47-51, "computer 102 sends ... the icon sequence.") but does

not specifically teach a software module uniquely assigned to said object, wherein the software

module is automatically linked to the development means based on information stored on the

object, said software module providing at least one of a description procedure used in said

development means for describing a control process for said object. However, Lehman teaches

an automatic computer software code generator for generating a set of software modules that

contains information uniquely assigned to a control system (col. 3 lines 1-8, "The code generator

of the ... functional block is executed"), wherein the software module is automatically linked to

the development means based on information stored on the object (col. 3 lines 24-29, "A linking

software module ... repetition rate and skew"), the software module providing at least one of a

functional description 28 (description procedure) used in the development means for describing a

control process for the object (col. 5 lines 3-12, "The functional description 28 ... by the control

system") for the purpose of defining a set of computations which are to be performs by the

control system. Therefore, it would have been obvious to one of ordinary skill in the art at the

time of the invention to incorporate the code generator system of Lehman with the system of

Carlson because it would provide for the purpose of defining a set of computations which are to

be performs by the control system.

Regarding claim 2

Lehman teaches the development means acquires a unique RateID for each subsystem (device)

and the software module uses this unique identifier to identify the subsystem (col. 19 line 61 to

col. 20 line 32, "The RateID parameter for ... in the URIT table 106").

Regarding claim 4

Lehman teaches the software module is stored within a database server connected with said

development means through a communication bus so that said development means acquires said

software module from the database server (col. 5 lines 3-12, "The functional description 28 ...

by the control system").

Regarding claim 5

Carlson teaches the development means provides a display area on the monitor, in which at least

one icon is displayed, the icon representing one of said object connected to said controller and an

object to be connected to said controller (col. 7 lines 11-15, "Once a copy ... must be

established.").

Regarding claim 6

Carlson teaches the icon procedure displays a plurality of icons in the display area on said

monitor, each icon illustrating current status of the object (col. 8 lines 31-35, "the controls in ...

types of instruments.").

Regarding claim 7

Carlson teaches the development means provides a development area on said monitor, and a user copies the icon from the display area onto the development area, thereby developing the program (col. 6 lines 57-64, "To begin the ... design region 206.").

Regarding claim 8

Lehman teaches when the software module provides the description procedure, the user utilizes the description procedure for describing a control process for said object determining operation of said object, thereby developing the program (col. 3 lines 9-23, "The user provides ... computational skew periods").

Regarding claim 9

Carlson teaches the icon procedure displays a plurality of icons in the display area on the monitor, each icon illustrating operation of said object (col. 12 lines 33-41, "Each icon on ... specified instruments.")

Regarding claim 10

Carlson teaches the user connect s a plurality of the icons with each other to form a flowchart in the development area, thereby developing the program (col. 13 lines 23-30, "Assuming a left-to-right ... operation icon OIC3.").

Regarding claim 11

Carlson teaches the development means displays the icons in the display area, and simulates operation of said object while execution of the program is simulated, whereby the monitor is used for displaying simulation of said object (col. 6 lines 9-16, "a computer may ... a textual indicators.").

Regarding claim 12

Carlson teaches the development means displays the icons in the display area, illustrates the operation of said object while said implementing means implements the program, whereby the monitor is used for displaying operation of said object (col. 12 lines 47-51, "computer 102 sends … the icon sequence.").

Regarding claim 15

Carlson teaches a storage medium storing a computer program for execution on a system which comprises a controller (fig. 1, element 116), a monitor connected to the controller (fig. 1, element 118), at least one object to be controlled, the object being connected to the controller (fig. 1, elements 104, 106, 108 and 110), development means for developing a program for the controlled object (col. 7 lines 26-45, "a user first … the selected instrument."), implementing means for implementing the program developed by the development means (col. 12 lines 47-51, "computer 102 sends … the icon sequence."), an icon procedure for displaying an icon for said object in a display area on the monitor (col. 2 lines 52-56, "The instructions include … specifies the series of operations"), an implementing procedure for implementing the control process developed for the object (col. 2 lines 56-59, "The instructions also include … to perform the series of operations"), the development means provides a display area on the monitor, at least one icon is displayed, the icon representing one of the object connected to the controller and an object to be connected to the controller (col. 7 lines 11-15, "Once a copy … must be established."); the development means provides a development area on the monitor (col. 6 lines 21-31, "Referring now to FIG. 2 … by the user."); and the icon is copied from the display area onto the development area, thereby developing an application program (col. 6 lines 36-40, "A

user designs … experimental flow") but does not teach a software module uniquely assigned to

said object, wherein the software module is automatically linked to the development means

based on information stored on the object, the software module including a description procedure

for describing a control process for the object, the development means acquires a global unique

ID from the device and identifies the software module with the global unique ID. However,

Lehman teaches an automatic computer software code generator for generating a set of software

modules that contains information uniquely assigned to a control system (col. 3 lines 1-8, "The

code generator of the … functional block is executed"), wherein the software module is

automatically linked to the development means based on information stored on the object (col. 3

lines 24-29, "A linking software module … repetition rate and skew"), the development means

acquires a unique RateID for each subsystem (device) and the software module uses this unique

identifier to identify the subsystem (col. 19 line 61 to col. 20 line 32, "The RateID parameter for

… in the URIT table 106"), the software module providing at least one of a functional

description 28 (description procedure) used in the development means for describing a control

process for the object (col. 5 lines 3-12, "The functional description 28 … by the control

system") for the purpose of defining a set of computations which are to be performs by the

control system. Therefore, it would have been obvious to one of ordinary skill in the art at the

time of the invention to incorporate the code generator system of Lehman with the system of

Carlson because it would provide for the purpose of defining a set of computations which are to

be performs by the control system.

Regarding claim 16

Carlson teaches the software module further providing an icon procedure for displaying an icon

for said object in a display area on said monitor (col. 2 lines 52-56, "The instructions include …

specifies the series of operations").

6.   Claims 3 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carlson

in view of Lehman and further in view of U.S. Patent no. 6,173,438 ("Kodosky").

Regarding claim 3

Carlson and Lehman teach the system with a development means acquires the software module

but do not teach the software module is stored within said object so that said development means

acquires said software module from said controlled object. However, Kodosky teaches the

software module is stored within embedded memory of the embedded system (object) so that

said development means acquires said software module from said controlled object (col. 11 lines

34-39, "The embedded memory … automation function.") for the purpose of accessing the code

quicker without further conversion into machine language. Therefore, it would have been

obvious to one of ordinary skill in the art at the time the invention was made to incorporate the

software module storing technique of Kodosky with the system of Carlson and Lehman because

it would provide for the purpose of accessing the code quicker without further conversion into

machine language which understand by any computer system.

Regarding claim 13

Carlson and Lehman teach the system for developing an application system but do not teach

implementing means sends messages to and/or receives messages from said object according to

the program developed. However, Kodosky teaches the bi-directional interface between the host

computer and the embedded system where embedded system returns messages to the host

computer according to the program developed (col. 17 lines 1-10, "the embedded system ... the

graphical program.") for purpose of utilizing the most efficient use of resources in compare to

the use of two uni-directional interfaces. Therefore, it would have been obvious to one of

ordinary skill in the art at the time the invention was made to incorporate the bi-directional

interface of Kodosky with the system of Carlson and Lehman because it would provide for

purpose of utilizing the most efficient use of resources in compare to the use of two uni-

directional interfaces.

7.   Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carlson in view

of Lehman and further in view of U.S. Patent no. 6,279,049 ("Kang")

Regarding claim 14

Carlson and Lehman teach the system for developing an application system with the object

connected to a controller through an interface but do not teach the interface including at least one

of a Plug and Play function and a Hot Plug function. However, Kang teaches a Universal Serial

Bus (USB) and/or the IEEE1394 interfaces are capable of having hot plug-and-play functions

(col. 4 lines 11-15, "Namely, the USB ... a monitor relevance.") for the purpose of overcoming

the limitation in which the connectors of the peripheral equipments are in different shapes need

to be fit before using. Therefore, it would have been obvious to one of ordinary skill in the art at

the time the invention was made to incorporate the USB or IEEE1394 interface of Kang with the

system of Carlson and Lehman because it would provide for the purpose of overcoming the

limitation in which the connectors of the peripheral equipments are in different shapes need to be
fit before using.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should
be directed to examiner *Thomas Pham*; whose telephone number is (703) 305-7587 and fax number is
(703) 746-8874, Monday-Thursday and every other Friday from 7:30AM- 5:00PM EST or contact
Supervisor *Mr. Anthony Knight* at *(703) 308-3179.*

Any response to this office action should be mailed to: **Commissioner for Patents, P.O.
Box 1450, Alexandria VA 22313-1450.** Responses may also be faxed to the **official fax
number (703) 872- 9306.**

Information regarding the status of an application may be obtained from the Patent
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Thomas Pham
Patent Examiner

TP

July 14, 2004

Anthony Knight
Supervisory Patent Examiner
Group 3600